Marine Management Organisation

Scoping Opinion

Harbours Act 1964

Title: Port of Barrow – West Coast Operations and Maintenance Facility

Applicant: DONG Energy Power (UK) Limited and Associated British Ports

MMO Reference: DC10142

Contents

1. Proposal

DONG Energy Power (UK) Limited ("DE") and Associated British Ports ("ABP") propose to construct an Operations and Maintenance ("O&M") facility at the Port of Barrow. The West Coast O&M facility will support three Offshore Windfarms ("OWF"): the existing Walney OWF ("WOW01+02"); the existing Barrow OWF ("BOW") and the Walney Extension OWF ("WOW03+04 OWF"), which is currently under construction with completion due in 2018.

1.1 Project Background

The proposed O&M facility will accommodate all staff, plant, equipment and material required during the operational life (25 years) of the OWFs for operation and maintenance activities. The facility will consolidate existing buildings and infrastructure, currently used for the servicing of WOW01+02 and BOW, and also include the construction of new terrestrial and marine facilities to provide additional capacity to service WOW03+04.

New terrestrial facilities will consist of offices for administration, technicians and management staff, warehouses for the storage of spares and tools, training facilities and supporting infrastructure such as car parking. The existing BOW OWF building will be demolished.

New marine facilities will include the installation of pontoons for OWF vessels to berth, namely Crew Transfer Vessels ("CTVs"). The existing pontoons for WOW01+02 OWF and BOW will be retained and incorporated into the new facilities.

The Walney Channel has a buoyed channel approximately 100m wide, with a minimum depth in some areas of approximately -7.75m Ordnance Datum ("OD") (-3.0m Chart Datum ("CD")). The channel has a side-slope approximately 1 in 5 along the eastern side of the channel, to the formed slope along the frontage of the proposed scheme location. The side-slopes to the west are more gentle, approximately 1 in 30, to an expanse of intertidal mudflats.

To achieve the required water depth, for free movement of the pontoons and CTVs over the full tidal range, some minor capital dredging may be required at the southern end of the proposed pontoons. The current proposal is to dispose of the subsequent dredged material to sea at Barrow Site D dredged material disposal site. Maintenance dredging may be required to preserve the required water depths in these locations during operational activities.

The West Coast O&M facility will comprise the following new and retained elements:

- Office space.
- Technician facilities/workshop.
- Warehouse space.
- Training facilities.
- External storage and parking areas.

- Installation of services on site (e.g. water, electricity etc).
- Piers and pontoons with cranes incorporating refuelling capabilities.
- Capital dredging to deepen water depths adjacent to the new pontoons and disposal of dredged material at sea.
- Ongoing maintenance dredging to maintain dredged depths during the operational phase.

2. Location

The proposed O&M facility is located within the Port of Barrow, which is displayed in Figure 1 below. The proposed works are located in the vicinity of a number of marine protected areas, which are displayed in Figure 2.

Figure 1: DE West coast O&M permanent facilities indicative site layout (page 21 of the scoping report.)

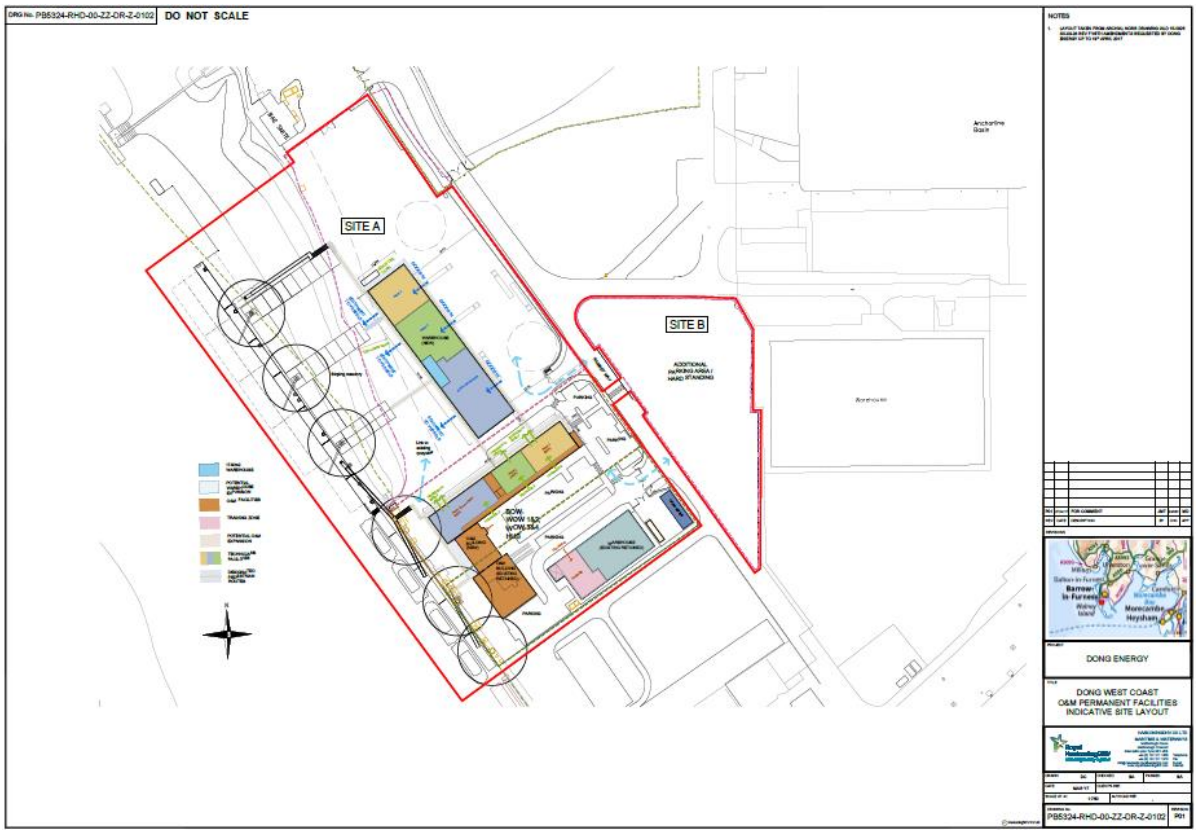


Figure 3: Aerial view of approximate polygon showing indicative location of proposed West Coast O&M facilities.

3. Environmental Impact Assessment (EIA)

The Marine Management Organisation ("MMO") considers the proposed works to be an Annex II project under the EIA Directive 2011/92/EU ("the Directive"), specifically: Article 4(2) 10 (e) "Construction of roads, harbours and port installations, including fishing harbours (projects not included in Annex I)".

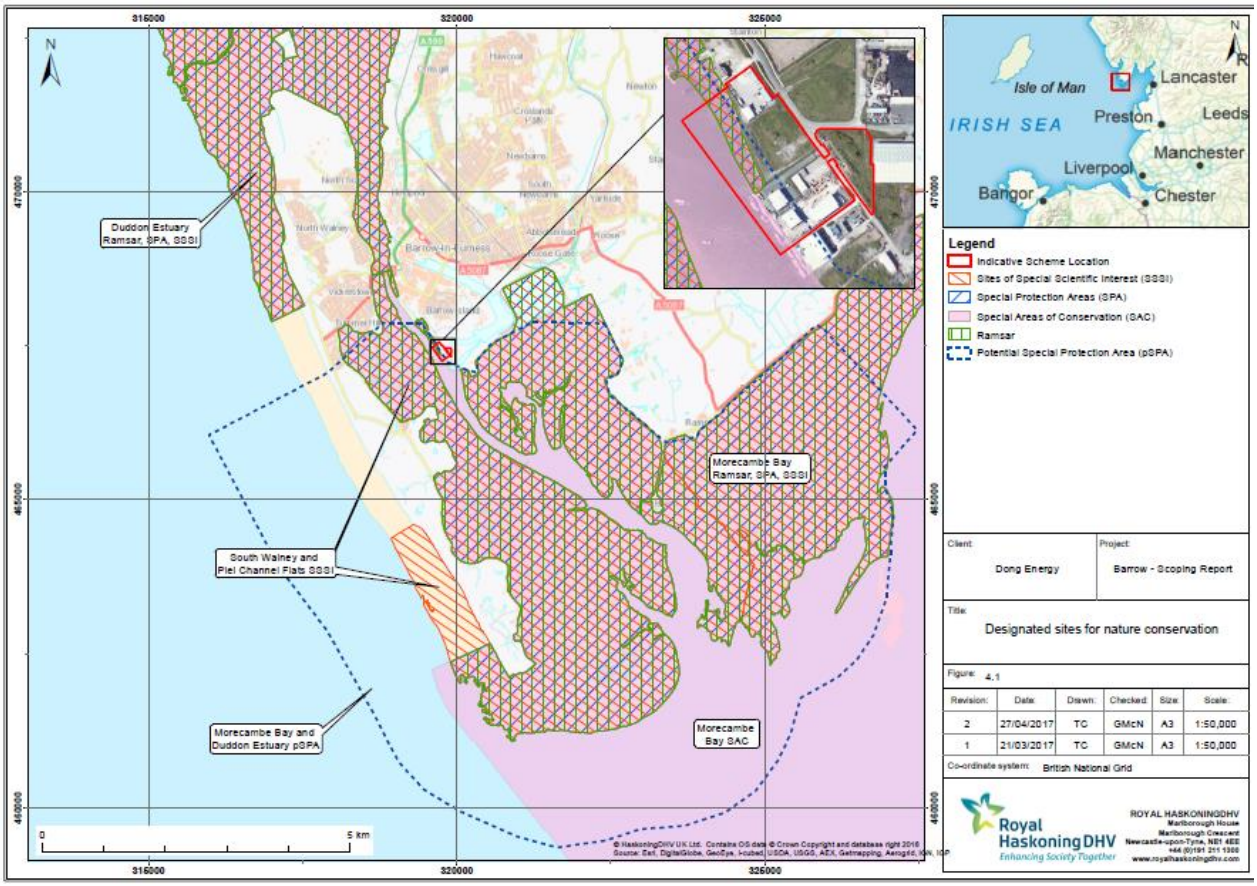
4. EIA Scoping Opinion

Royal Haskoning have prepared a Scoping Report ("the report") on behalf of DE entitled "West Coast Operations and Maintenance (O&M) Facilities" submitted to the MMO.

The MMO agrees with the topics outlined in the Scoping Report and in addition, recommends that the following aspects are considered further during the EIA and should be included in any resulting Environmental Statement ("ES").

5. Nature Conservation Designations

Figure 2: Designated nature conservation sites



5.1 European Marine Sites ("EMS")

The Morecambe Bay EMS includes those parts of the Morecambe Bay Special Area of Conservation ("SAC") and Morecambe Bay and Duddon Estuary Special Protection Area ("SPA") covered (continuously or intermittently) by tidal waters or any part of the sea. The locations of the proposed activities are within the boundaries of the EMS. These sites are discussed in more detail in the following sections.

5.2 Special Protection Area ("SPA")

The proposed development site is within the boundaries of the Morecambe Bay SPA and Morecambe and Duddon Estuary potential SPA ("pSPA") and in the vicinity of the Duddon Estuary SPA. The overlap caused by the proposed development risks direct loss of habitat calculated as an indicative area of 2000m^2. This area does not take into consideration the proposed capital dredge works. Any loss or damage to habitat, considered as part of a project, within a European site that cannot be avoided or reduced, would need to be fully considered in a Habitats Regulations Assessment ("HRA"). Any potential impacts to these sites will need to be considered in a shadow HRA document that will support the relevant statutory authority in carrying out a formal HRA. Within this supporting information details of any proposed mitigation measures will need to be provided.

The bird species for which the SPAs were designated include, but are not limited to: sandwich terns, little terns, pintails, bar-tailed godwits and golden plovers. These species are considered to be most sensitive to disturbance during the over winter period (November to March). The construction period is most likely to be the main source of disturbance due to the use of machinery for piling, transporting materials and carrying out the associated works. The ES and any HRA will need to assess the potential impacts during both the construction and operational phase. The development will increase the capacity for CTVs and develop terrestrial facilities which could pose long term risks to the conservation objectives of the protected site. If further disturbance is predicted there may be a requirement to supply a vessel management plan and considered in the ES.

The derelict land, forming part of the proposed terrestrial development, is known to be a favoured site for nesting gulls, therefore a breeding bird survey is recommended to identify nesting birds. The disturbance of high tide roosts is potentially a greater impact to the integrity of the pSPA features due to the small number of undisturbed roost sites available locally at high tide. To properly inform the ES, the bird surveys referenced in the scoping report (count sector A and B) will need to be appropriate for the potential extent of the impact of disturbance. Escape flight distances vary with species and stimulus so the surveys need to cover a representative spread of tide states, weather states and times within at least a 500m radius of the indicative development areas perimeter falling within the protected sites.

Within the scoping report, the count sectors appear to have been chosen based on the boundary of Morecambe Bay SPA. The Morecambe Bay SPA has merged with Duddon Estuary SPA and, as such, site boundaries have been altered to form Morecambe Bay and Duddon Estuary pSPA. The pSPA is afforded the same level of consideration as a European site. The Walney Channel, which forms part of the pSPA, may have importance for pSPA assemblage species.

There are no fish species protected under the designations or listed as a qualifying feature of these sites. However, fish are likely to form an important part of the diet for many of the birds which are protected, e.g. sandeels for sandwich and little tern, therefore impacts should be considered within the ES.

Paragraph 5.3.2 of the scoping report references direct impacts on the benthic estuarine community as a result of dredging and piling. It states that the capital dredge does not represent a habitat loss. The ES will need to provide reasoning to support this. Further, regular maintenance dredging could restrict the succession of the habitat causing it to remain in a semi degraded state. The sediments in the vicinity of the proposed works are predominantly fine and muddy; therefore recovery rates should be relatively quick. Despite this, the worst-case scenario should be fully assessed. The MMO also considers that the proposed piling has the potential to represent permanent habitat loss. The implications of this should be fully considered in the ES.

5.3 Special Area of Conservation ("SAC")

The proposed works are within the boundaries of the Morecambe Bay SAC. There is a colony of grey seals resident at South Walney, but large populations of cetaceans are not known to inhabit the Walney Channel. The increase in vessel movements during the operational phase will likely result in increased noise disturbance and should be assessed in the ES. According to the scoping report, the number of vessels required during the operational phase of the proposed scheme (i.e. 6 double berthing points allowing for the berthing of up to a maximum of 12 additional vessels) is relatively small in relation to existing vessel movements in the local vicinity, and therefore no significant impacts are predicted. Although piling will be the main noise source, the noise arising from dredging operations and the impact on marine mammals should also be a consideration in the ES. The MMO agrees with the statements regarding the impacts of underwater noise and vibration, particularly piling, on marine mammal disturbance. The method of piling should be identified in order to properly assess potential mitigation measures and included in the ES.

The scoping report concludes that given the relatively short duration of works which may have the potential to impact upon marine mammal species, the potential for adverse impacts to occur, for example as a result of noise disturbance, will be assessed using professional judgement, without the requirement for underwater noise monitoring and modelling. The assessment of potential impact will be informed through desk based assessment, utilising existing data sources to predict potential impacts. This approach is acceptable and the MMO recommend conclusions are based on appropriate, relevant, peer-reviewed scientific literature.
It is appropriate that the report identifies that resident and migratory fish within the area have potential to be disturbed by underwater noise generated as a result of dredging and particularly piling. The report states that 'the piling will however be a temporary impact, lasting for approximately 16 weeks, though not continuous, with any impact being reversible following completion of the piling'. This statement is subjective and is dependent on the severity of the potential impacts. The piling method should be identified to properly assess impacts and mitigation.

A basic description of the marine ecology of the area is presented. There are a number of species/habitats of importance such as *Ophiothrix fragilis* and *Sabellaria alveolata*, together with eelgrass beds; these will need to be addressed accordingly in the shadow HRA and ES, including any loss or damage to habitat within a European site.

5.4 Ramsar

The footprint of the proposed development is within the Morecambe Bay Ramsar and is in the vicinity of the Duddon Estuary Ramsar. Any potential impacts to these sites will need to be considered in a shadow HRA document that will support the relevant statutory authority in carrying out a formal HRA. Within this supporting information details of any proposed mitigation measures will need to be provided.

5.5 Sites of Special Scientific Interest ("SSSI")

The development is within the boundaries of the South Walney Pier Channel Flats SSSI and in the vicinity of the Morecambe Bay SSSI and Duddon Estuary SSSI and impacts should be considered in the ES.

5.6 Marine Conservation Zone ("MCZ")

The West of Walney and Wyre and Lune MCZ's are correctly identified. For completeness, we recommend that the Cumbria Coast MCZ, approximately 30km away, is also identified. The MMO are satisfied with the conclusion of the scoping report that an MCZ assessment will not be necessary for the proposed scheme.

6. Coastal Processes

It was identified that during the operational phase of the proposed project, capital dredging may be required. The dredging and additional installation of the proposed piers and pontoons has the potential to change tidal and current velocities. The scoping report notes that the structures will be open and any effects will be localised. Despite this, the area is designated as an SAC and any potential changes in tidal hydrodynamics should be assessed in the ES.

A study area to assess the potential for impacts on the marine environment in respect of the proposed scheme has not been quantified in the scoping report. This will be determined with hydrodynamic modelling, which will be undertaken to inform both engineering and environmental requirement. This is appropriate for the scoping stage, as long as in the ES such findings are revisited with what was assumed in the scoping report and does not limit the identification of other projects for the cumulative impact assessment.

Considering the localised nature of the works, the open character of the structures to be installed (piles) and the limited need for dredging and disposal, at this stage it seems appropriate to undertake only tidal hydrodynamics modelling and plume sediment modelling and to assess effects on patterns of erosion and sedimentation with the interpretation of results from hydrodynamic modelling. However, the proposed approach should be fully justified in the ES.

7. Fish Ecology and Fisheries

7.1 Fish Ecology

Migratory fish have been acknowledged in the scoping report, however the MMO recommend that the migration periods for eels, Atlantic salmon, sea trout, river lamprey and smelt are also given consideration in the ES in relation to the timing of construction activities such as piling.

Walney Island is located adjacent to areas of high intensity spawning grounds for sole and cod, both of which are species of commercial importance. Morecambe Bay is also a high intensity nursery ground for herring. The MMO would expect these species to be considered in the ES, particularly with respect to underwater noise and vibration from piling activity. The ES should provide details of the size and number of piles, expected piling duration, any extended piling, and the predicted time of year that piling works will be carried out.

Suspended sediment is a potential risk to shellfish communities and should also form part of the consideration in the ES.

7.2 Commercial Fisheries

Commercial cockle beds opened in Morecambe Bay in 2016 and 2017, at Leven Island and Pilling Sands. It is likely that there will be a number of commercial cockle beds opening in September 2017 and into 2018.

Morecambe Bay is an important area for commercial mollusc beds (*Mytilus edulis*). Within the report it is noted that some commercially exploited mussel beds are located within or close to Walney Channel (with the largest being at Foulney, but smaller ones being adjacent to the Jubilee Bridge and at Roa Island). There is also a bed at Walney Meetings, approximately 2km north of the area of proposed works, the MMO recommends further consultation with North West IFCA to clarify the positions of local mollusc beds as they will have local knowledge of the area.

Commercial fisheries have been scoped out of the ES, however it is important that access through Walney Channel is maintained throughout the construction phase for the passage of commercial fishing vessels to in-channel moorings and other berths, such as the Barrow Island Boat Club. Access during the operational phase should also be considered within the ES.

The proposed dredging and piling activities have the potential to affect fish and shellfish communities, in particular during the construction phase. Increased noise and suspended sediment can alter fish behaviour and foraging activities, as well as smothering shellfish communities. These potential impacts should be considered in the ES.

The descriptions of impact pathways for fish and shellfish give limited information on shellfish and focuses on finfish and their feeding resource. The MMO suggest further consideration of commercial shellfish species in the ES.

8. Archaeology

Initial assessments show a large number of heritage assets within 2km of the proposed site. The ES must consider the potential impacts on non-designated features of historic, architectural, archaeological or artistic interest, as these features may be of national importance. These features can also make important contributions to the character and local distinctiveness of an area and its sense of place. Such information is available via the Local Authority and the Historic Environment Record (www.heritagegateway.org.uk).

The Conservation Officer at Barrow Council and archaeological staff at Cumbria Historical Environment Record can advise on local historic environment issues and priorities; tailoring the proposal to minimise adverse impacts to the historic environment; designing any required mitigation measures, including any visual impacts on heritage features in the area; and opportunities for securing wider benefits for the future conservation; and management of heritage assets.

9. Navigation / Other Users of the Sea

A Navigational Risk Assessment should be undertaken that considers all stages of the proposed works to form part of the ES.

The MMO consider the importance of maintaining access through Walney Channel throughout the construction phase for the passage of commercial fishing vessels to in-channel moorings and other berths, such as the Barrow Island Boat Club and this should be included in the ES.

10. Water Quality

The scoping report states capital and maintenance dredging will be required, but volumes and depths have not been confirmed. This should be confirmed for the final ES as this will inform the number of sediment samples required for chemical characterisation as evidence, and also the disposal sites that can be used.

In the scoping report, it is stated the sediment quality data has been taken from two sources ‘specifically a targeted sediment quality survey undertaken in June 2016 within the Walney Channel for the proposed scheme’, and from information contained within the ‘Morecambe Bay: Maintenance Dredge Protocol and Water Framework Directive Compliance Baseline Document’. However, while these results have been discussed they have not been provided. The raw results should be provided with the final ES.

The scoping report has identified that the potential issues, with regards to water and sediment quality, are the possible reduction in water quality through the remobilisation of sediment and sediment bound contaminants through the construction and dredged activities. The MMO agree with these identified potential impacts and this should be included in the ES.

There is the potential for construction works to result in the release of pollutants through spillages or the disturbance of historical contaminants. This has the potential to contaminate surface water bodies and underlying ground water. The potential pathways and effects should be properly assessed in the ES, especially in relation to adjacent European sites. Future construction management plans should also address measures to avoid surface water contamination.

The current ground investigation and risk assessment should be used to determine the most appropriate foundation design that will not cause unacceptable risk to the quality of groundwater and coastal waters. Given the proximity to the Walney Channel, and depending on the findings of the ground investigation and risk assessment, a separate piling risk assessment may be required, this should be considered in the final ES.

If the risk assessment estimates the potential for high risk activities to impact on the surrounding environment, we would expect an options appraisal to be carried out. The options appraisal should provide a decision on how any potential problems will be managed, known as remediation, and can involve prevention or cleaning up of

contamination. To remediate the problem effectively involves an in depth assessment of the relevant factors and from that, drafting a plan, known as an implementation plan, explaining any remediation. Further guidance on risk assessments and options appraisals can be found here: https://www.gov.uk/guidance/land-contamination-risk-management

11. Waste and Disposal

The scoping report does not clearly identify if the three pontoons for the CTV's will be new or existing. This should be clarified in the ES and recycling should also be considered, if it is not already, given the potential impacts of construction.

Based on the scoping report and the discussion of the results, it would appear that most of the material is suitable for dredging and disposal to sea. However, there was a sample which exceeded action level 2 for mercury which may require an exclusion zone. The MMO recommends undertaking pre-application sampling analysis to reduce the area of any potential exclusion zone.

The MMO will review the samples and results following confirmation of the dredge depth and volumes and following the submission of a shapefile, to ensure the evidence is sufficient to inform the application.

12. Habitats Regulation Assessment

As previously stated, any loss of protected habitat must be fully assessed in the shadow HRA and suitable measures must be in place to ensure the integrity of the site and species it supports.

The terrestrial works are expected to take in the order of 18 months, whereas the marine works are expected to last 8 months. Overall the facilities will operate 365 days a year, 7 days a week, 24 hours a day and have an operational lifetime of approximately 25 years. As a result, the scope of any EIA or shadow HRA should include the effects of the construction phase, but consideration should also be given to the potential disturbance caused by the overall increased usage of the site.

13. Cumulative Impacts

A number of projects have been identified within the vicinity of the proposed development to be considered for the potential to result in cumulative impacts:

- BAE Systems Site Redevelopment Programme
- Ramsden Dock Basin Marina Link
- National Grid proposed North West Coast Connections Project

In order to scope out projects for lack of potential interaction with the influences of the proposed scheme, this should be fully justified in the ES.

14. Additional Comments

14.1 Coordinates

A shapefile or coordinates of the proposed works is required to identify the proposed location in order to inform the ES and subsequent assessment of the formal application. To ensure the impacts have been assessed for the activities in a specific location, a minimum of an excel file containing coordinates (in WGS84 format) should be provided.

14.2 Grey Seal Species Count

The count for the population of Grey seals at the nearby South Walney nature reserve, approximately 6km south of the development site, is incorrect. The population was assessed in 2016 by Cumbria Wildlife Trust and RSPB and was found to be in excess of 225 individual seals. The reserve is also a breeding colony with consistent numbers of pups in recent years, this information should be amended for inclusion in the ES.

14.3 Decommissioning

The scoping report concludes that the ES will not include an assessment of decommissioning. However, the various elements of the new infrastructure will have a limited time-life and therefore, decommissioning options should be anticipated and considered within the ES for replacement of elements or termination of their functionality. Furthermore, the effects of decommissioning of the temporary marine platform (removal of piles) after the construction works in terms of plumes of suspended sediments should also be included in the ES.

14.4 Alternatives

Consideration of the alternatives, including the ‘do nothing’ scenario, alternative locations and alternative layouts should include alternatives based on environmental considerations as well socio-economic in the ES.

14.5 Consultation Process

The MMO is broadly satisfied with the suggested consultees for the ES, with the addition of the UK Major Ports Group, the British Ports Association and Ministry of Defence. We recommend consultation directly with National Grid in order to identify the location of any facilities in the vicinity of the proposed development and the appropriate best practices for working in such locations. The MMO also recommends direct engagement with the Boughton Estates Limited to establish the requirement for any further consents.

15. Conclusion

The topics highlighted in this scoping opinion should be assessed during the EIA process and the outcome of these assessments should be documented in the ES in support of the harbour revision order, marine licence and the planning application(s). This statement, however, should not necessarily be seen as a definitive list of all EIA requirements. Given the scale and programme of these planned works other work may prove necessary.

19 October 2017

Jayne Burns
Marine Licensing Case Officer

D +44 (0)208 225 6439
E Jayne.Burns@marinemanagement.org.uk